

--PROCESS FOR OXIDE FABRICATION USING OXIDATION STEPS BELOW AND ABOVE A THRESHOLD TEMPERATURE--

IN THE CLAIMS:

(1) Please amend Claim 1 as follows:

1. (Amended) A process for fabricating an oxide, the process comprising:

65 (a) forming a first oxide portion over a substrate, wherein forming said first oxide portion includes increasing from an initial temperature to a first temperature below a threshold temperature at a first ramp rate, increasing from said first temperature below said threshold temperature to a second temperature below said threshold temperature at a second ramp rate, and generating said first oxide portion; and

B (b) forming a second oxide portion under said first oxide portion, wherein forming said second oxide portion includes increasing from said second temperature below said threshold temperature to a third temperature at a third ramp rate, increasing from said third temperature to a temperature above said threshold temperature at a fourth ramp rate, and generating said second oxide portion.

(2) Please cancel Claim 3 without prejudice or disclaimer.

(3) Please amend Claim 5 as follows:

5. (Amended) A process as recited in claim 1, wherein said first temperature below said threshold temperature is approximately in the range of 750°C to 850°C and said first ramp rate is approximately in the range of 50°C to 125°C per minute.

a6 (4) Please amend Claim 6 as follows:

6. (Amended) A process as recited in claim 1, wherein said second temperature below said threshold temperature is approximately in the range of 800°C to 900°C and said second ramp rate is approximately in the range of 10°C to 25°C per minute.

(5) Please cancel Claim 7 without prejudice or disclaimer.

(6) Please amend Claim 8 as follows:

8. (Amended) A process as recited in claim 1, wherein said temperature above said threshold temperature is in the range of approximately 925°C to 1100°C.

a7 (7) Please amend Claim 9 as follows:

9. (Amended) A process as recited in claim 1, wherein said third ramp rate is approximately in the range of 5°C to 15°C per minute and said third temperature is approximately in the range of 875°C to 1050°C.

(8) Please amend Claim 10 as follows:

10. (Amended) A process as recited in claim 1, wherein said fourth ramp rate is approximately in the range of 5-10°C per minute and said temperature above said threshold temperature is approximately in the range of 925°C to 1100°C.

[(9) Please amend Claim 11 as follows:]

11. (Amended) A process as recited in claim 1, wherein said temperature above said threshold temperature is maintained for a period of time and in an oxidizing ambient.

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[(10) Please amend Claim 12 as follows:]

12. (Amended) A process as recited in claim 11, wherein said oxidizing ambient includes an oxygen concentration of about 25% or less.

[(11) Please amend Claim 13 as follows:]

13. (Amended) A process as recited in claim 2, wherein said cooling further comprises:

reducing from said temperature above said threshold temperature to an intermediate temperature at a first rate; and

reducing from said intermediate temperature to a final temperature at a second rate.

[(12) Please amend Claim 14 as follows:]

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14. (Amended) A process as recited in claim 13, wherein said first rate is approximately in the range of about 2°C to 5°C per minute and said intermediate temperature is approximately in the range of about 800°C to 900°C.

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(13) Please amend Claim 16 as follows:

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16. (Amended) A process for fabricating an oxide, the process comprising:

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(a) exposing said substrate to a first oxidizing ambient, wherein exposing said substrate to a first oxidizing ambient includes increasing from an initial temperature to a first temperature below a threshold temperature at a first ramp rate, increasing from said first temperature to a second temperature below said threshold temperature at a second ramp rate, and growing at least a portion of said oxide;

(b) exposing said substrate to a second oxidizing ambient, wherein exposing said substrate to a second oxidizing ambient includes increasing from said second temperature to a third temperature at a third ramp rate, and increasing from said third temperature to a temperature above said threshold temperature at a fourth ramp rate; and

(c) cooling said substrate to a temperature below said threshold temperature.

(14) Please cancel Claim 17, without prejudice or disclaimer.

(15) Please amend Claim 18 as follows:

~~18.~~ (Amended) A process as recited in claim ~~16~~, wherein said first temperature below said threshold temperature is in the range of 750°C to 850°C and said first ramp rate is approximately 50°C-125°C per minute.

Q9 (16) Please amend Claim 19 as follows:

~~19.~~ (Amended) A process as recited in claim ~~16~~, wherein said second temperature below said threshold temperature is approximately 800°C-900°C and said second ramp rate is approximately 10°C-25°C per minute.

(17) Please amend Claim 21 as follows:

Q10 ~~21.~~ (Amended) A process as recited in claim ~~16~~, wherein step (b) further comprises:
increasing from said second temperature to said third temperature at a ramp rate of approximately 5-15°C/minute in an ambient oxygen concentration of approximately 0%-5%;
increasing from said third temperature to said temperature above said threshold temperature at a ramp rate of 5-10°C/minute in an ambient oxygen concentration of approximately 0%-5%; and
growing at least a portion of the oxide in an oxygen ambient concentration of about 25% or less.

(18) Please amend Claim 22 as follows:

~~22.~~ (Amended) A process as recited in claim ~~16~~, wherein step (c) further comprises:
reducing from said temperature above said threshold temperature to approximately 800°C to 900°C at a rate of about 2°C/min-5°C/min; and

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reducing said temperature of approximately 800°C to 900°C to a boat pull temperature at a rate of about 35°C/min-65°C/min, wherein said oxide portion formed in step (a) is a first oxide portion and acts as a stress sink to a second oxide portion formed in step (b) during at least a portion of said cooling.

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(19) Please amend Claim 25 as follows:

25. (Amended) A process as recited in claim 22, wherein said first oxide portion has a thickness in the range of about 7.5 to 20 Å.

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(20) Please amend Claim 26 as follows:

26. (Amended) A process as recited in claim 22, wherein said second oxide portion has a thickness in the range of about 2 to 12 Å.

✓ (21) Kindly cancel Claims 28-29 without prejudice or disclaimer.

REMARKS

The Applicants respectfully request reconsideration of this Application. The Applicants originally submitted Claims 1-31 in the Application. In response to a restriction requirement, Claims 28 and 29 have been withdrawn from consideration at this time, pending the filing of a Divisional Application. The Applicants have amended Claims 1, 5, 6, 8-14, 16, 18, 19, 21, 22, 25 and 26, and have canceled Claims 3, 7, 17, 28 and 29 without prejudice or disclaimer. No claims have been